

REMARKS

Claims 1, 9, and 12 were rejected for lack of particularity. Applicant requests reconsideration. The claims have been accordingly amended. Claims 1-5, and 7-12 were rejected as anticipated by Nazem. Claims 6, and 13-15 were rejected as unpatentable over Nazem in view of Rune. Applicant requests reconsideration.

The term caching refers broadly to making a copy of data within intermediate storage. A file cache makes copies of frequently used files or portions of files, such as web content data. A file cache is a component of the operating system or the application software, such as a web browser. In a replicated file system, a file cache may be located on a remote host computer, in which the proximal host requests the file contents from the remote host file cache. The invention is directed towards accessing information on a remote web content data stored by a remote web cache.

The basis for allowance is common to claim 1, 9, and 12 that include the limitation of "cross referencing at the proximal IPA in the forwarding table the stored destination URL identifier with the destination IPA". As such, the invention is directed to forming a forwarding table that includes both IPA and URL information. the cross-referenced URL-to-IPA forwarding table assists the proximal host to locate web content data stored in a network of web caches. The benefits of associating the URL with IPA enables one to have a

1 self-contained content-based forwarding table. The purpose of the
2 invention enables, through cross-referencing, to place an overlay
3 access capability to cached data over the existing web, without
4 modifying the web, and managing the web cache network as a network,
5 independent of the internet.

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7 The prior art used routing table, which cross-references
8 source IPAs to distal IPAs for the purposes of routing data
9 packets. The prior art also used forwarding tables which also cross
10 reference source IPAs to minimum hop distal IPAs for the purpose of
11 efficiently routing data packets. The present invention is new as a
12 forwarding and routing table that associates URLs to distal IPAs
13 for accessing web content data from the nearest minimum hop URL
14 data that is stored in a web cache. The present invention does not
15 merely route IPAs from a routing table for forwarding discrete
16 packets, but rather forwards and routes the URL requests to near
17 and far web caches and servers. Hence, the present invention is
18 characterized by associating URL to distal IPA in a forwarding-
19 routing table using URL requests that are for retrieving web
20 content data from a distal but minimum hop web cache or a distal
21 URL web server identified by both the IPA and URL. As such, and
22 using the present invention, a web content data requests can be
23 sent, through table association, to a minimum hop web cache for
24 fast access, rather than to a far remote distal web server. By
25 using the invention, a browser directly communicates with a web
26 cache to access web content data without a DNS request.

1 Nazem (col. 3, lines 1-5), describes the well-understood prior
2 art by which a web browser normally accesses web content data
3 offered by a web server using the Domain Name System (DNS) to
4 cross-reference a web server name, contained within the URL, to a
5 destination IPA. The DNS service cross-references the web server
6 names, previously extracted from the distal URL, to the web server
7 IPA so that communication between the web browser and web server
8 can be established and the web content data can be transmitted
9 directly between them. The Nazem's use of the DNS service does not
10 teach or suggest the claimed cross-referenced URL forwarding
11 routing table, which cross-references a URL or prefix portions of a
12 URL to a destination IPA. The DNS service maintains cross-
13 references from a web server name to a list of destination IPAs.
14 Nazem neither teaches nor suggests a cross-referenced URL
15 forwarding routing table. Nazem's use of the DNS does not cross-
16 reference distal URLs or distal URL prefixes to a destination IPA.
17 Nazem (col. 3, lines 10-15) describes the modified operation of a
18 DNS name server such that the web server IPA returned to the web
19 browser is the same when more than one IPA is associated to a web
20 server name. There exist a plurality of methods for selecting a
21 destination IPA from the destination IPA list. Nazem (col. 3, lines
22 10-15), describes a desired deterministic method using the
23 requesting web browser IPA. The DNS service does not maintain
24 cross-references from a URL or prefixed portion of a URL to a list
25 of destination IPAs, and therefore does not teach or suggest a
26 cross-referenced URL-to-IPA forwarding table. Therefore, neither
27 does Nazem. Nazem (col. 2, 52-67, col. 3, 1-15) describes the
28 operation of prior art on how a web browser determines how to

1 communicate with a web server through DNS requests. Nazem is
2 irrelevant to the present invention that uses a forwarding-routing
3 table that associates URL and IPA for intermediate web cache
4 access.

5
6 The examination incorrectly cites Nazem (Col 3 line 1) to
7 indicate that there is a cross-referencing, but as discussed, this
8 is a DNS request which start by sending the web server name
9 extracted from the URL and ends with the DNS service returning an
10 IPA to the browser. The proximal IPA forwarding table stores cross-
11 references between a distal URL and a destination IPA prior to the
12 source sending a source URL identifier. Nazem does just the
13 opposite, by sending a URL and receiving an IPA from the DNS.
14 Storing the cross-reference between a distal URL or URL prefix and
15 a destination IPA is a separate process independent of DNS that is
16 not disclosed nor suggested in Nazem.

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The present inventions of claim 1, 9, and 12 are characterized as creating a forwarding-routing table that associates URL and IPAs requests for enabling access to near minimum-hop web caches. Nazem does not provide for minimum hop web cache access nor does Nazem use a forwarding-routing table that associates URLs and IPAs, but rather Nazem uses conventional DNS services for associating the two. Nazem teaches away from the present invention. Allowance of the claims is requested.

Respectfully Submitted

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